

**PATENT**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Application No.: 09/881,195  
Filing Date: June 14, 2001  
Applicant: KAZUYOSHI TAKEDA  
Group Art Unit: UNKNOWN  
Examiner: UNKNOWN  
Title: AUTOMATIC EVALUATION METHOD, AUTOMATIC  
EVALUATION SYSTEM, AND STORAGE MEDIUM  
STORING AUTOMATIC EVALUATION PROGRAM  
Attorney Docket: 9319S-000230

Commissioner of Patents and Trademarks  
Washington, D.C. 20231

**PRELIMINARY AMENDMENT**

Sir:

Prior to the examination of this application, please amend it as follows:

**IN THE SPECIFICATION**

Please replace the following paragraphs of the specification. Applicant includes herewith an Attachment for Specification Amendments showing a marked up version of each replacement paragraph.

**[Page 1, line 7]** The present invention relates to an automatic evaluation method, an automatic evaluation system, and a storage medium storing an automatic evaluation program, which can automatically evaluate a program operating on a target

system from an input event such as a key input and a reference output resulting from this input event on, for example, an output screen.

**[Page 4, line 9]** In order to solve the above problems, an automatic evaluation method is an automatic evaluation method for automatically evaluating a program operating on a target system by referring to an output screen as a result of a simulation to an arbitrary input event, in which the simulation is performed, a timing when data renewal of the output screen on which its result is reflected becomes definite is reported, reference to the output screen is made in accordance with the timing, and a result of the reference is compared with reference data prepared in advance, so that an automatic evaluation is carried out.

**[Page 4, line 23]** Further, according to another automatic evaluation method, the timing when the data renewal of the output screen becomes definite is determined by monitoring the passage of a predetermined time defined in advance. Moreover, according to yet another automatic evaluation method, the timing when the data renewal of the output screen becomes definite is determined by data which is finally prepared by carrying out a logical sum operation of individual simulation results at predetermined time intervals. Moreover, according to still yet another automatic evaluation method, the timing when the data renewal of the output screen becomes definite is reported by a display rewriting completion event from the program operating on the target system.

**[Page 5, line 16]** Besides this, according to another automatic evaluation method, the simulation is stopped when reference to the output screen is made.

**[Page 5, line 23]** In order to solve the above problems, yet another automatic

evaluation system is an automatic evaluation system for automatically evaluating a program operating on a target system by referring to an output screen as a result of a simulation corresponding to an arbitrary input event, and comprises a simulation unit for performing the simulation of an operation of the program and monitoring a timing when data renewal of the output screen on which its result is reflected becomes definite, and an automatic evaluation unit for obtaining from the simulation unit the timing when the data renewal of the output screen becomes definite, referring to the output screen at the timing, and carrying out an automatic evaluation by comparing a result of the reference with reference data prepared in advance.

**[Page 6, line 14]** Further, according to still yet another automatic evaluation system, the simulation unit comprises a simulator for performing the simulation, and a timing monitor portion for obtaining the timing when the data renewal of the output screen becomes definite by communicating with the simulator.

**[Page 6, line 25]** Besides this, according to another automatic evaluation system, the timing monitor portion includes a timer for monitoring passage of a predetermined time defined in advance. Besides this, according to another automatic evaluation system, the timing monitor portion includes an arithmetic logic unit for carrying out a logical sum operation of individual simulation results at predetermined time intervals and a determination according to the finally prepared data. Moreover, according to yet another automatic evaluation system, the timing monitor portion includes a decoder which receives a display rewriting completion event from the program operating on the target system and decodes the display rewriting completion event.

[Page 7, line 18] Besides, according to still yet another automatic evaluation system, the simulation is stopped when the reference to the output screen is made.

[Page 8, line 1] In order to solve the above problems, a storage medium storing an automatic evaluation program is a storage medium storing an automatic evaluation program for automatically evaluating a program operating on a target system by referring to an output screen as a result of a simulation to an arbitrary input event, in which the automatic evaluation program comprises a step of reading input events and reference data prepared in advance for the individual input events, a step of successively transmitting the read input events to cause execution of the simulation, a step of obtaining a notification of a timing when data renewal of the output screen on which a result of the simulation is reflected becomes definite and referring to the output screen in accordance with the timing, and a step of carrying out an automatic evaluation by comparing a result of the reference with the reference data.

[Page 24, line 2] The entire disclosure of Japanese Patent Application No. 2000-178341 filed June 14, 2000 is incorporated by reference herein.

### **ABSTRACT**

An automatic evaluation system automatically evaluates a program operating on a target system by referring to an output screen as a result of a simulation to an arbitrary input event, in which a simulation unit 30 performs the simulation of an operation of the program and monitors a timing when data renewal of the output screen on which its result is reflected becomes definite, and an automatic evaluation unit 11 obtains the timing when the data renewal of the output screen becomes definite from

the simulation unit 30, refers to the output screen at the timing, and carries out an automatic evaluation by comparing a result of the reference with reference data prepared in advance.

### **IN THE CLAIMS**

Please amend claims 1-11 in accordance with the following rewritten claims in clean form. Applicant includes herewith an Attachment for Claim Amendments showing a marked up version of each amended claim.

1. (Amended) An automatic evaluation method for automatically evaluating a program operating on a target system by referring to an output screen as a result of a simulation to an arbitrary input event, the automatic evaluation method comprising:

performing the simulation at a time when data renewal of the output screen on which the simulation result is reflected becomes definite is reported, and referencing the output screen in accordance with the time, and

comparing a result of the reference with reference data prepared in advance so that an automatic evaluation is carried out.

2. (Amended) An automatic evaluation method as set forth in claim 1, wherein the time when the data renewal of the output screen becomes definite is determined by monitoring the passage of a predetermined time defined in advance.

3. (Amended) An automatic evaluation method as set forth in claim 1, wherein the time when the data renewal of the output screen becomes definite is determined

based on data which is finally prepared by carrying out a logical sum operation of individual simulation results at predetermined intervals of time.

4. (Amended) An automatic evaluation method as set forth in claim 1, wherein the time when the data renewal of the output screen becomes definite is reported by a display rewriting completion event from the program operating on the target system.

5. (Amended) An automatic evaluation method as set forth in claim 1 wherein the simulation is stopped when reference to the output screen is made.

6. (Amended) An automatic evaluation system for automatically evaluating a program operating on a target system by referring to an output screen as a result of a simulation corresponding to an arbitrary input event, the automatic evaluation system comprising:

a simulation unit adapted to perform the simulation of an operation of the program and monitor a time when data renewal of the output screen on which the simulation result is reflected becomes definite; and

an automatic evaluation unit adapted to obtain from the simulation unit the time when the data renewal of the output screen becomes definite, refer to the output screen at that time, and carry out an automatic evaluation by comparing a result of the reference with reference data prepared in advance.

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7. (Amended) An automatic evaluation system as set forth in claim 6, wherein the simulation unit comprises:

a simulator adapted to perform the simulation; and

a time monitor portion adapted to obtain the time when the data renewal of the output screen becomes definite by communicating with the simulator.

8. (Amended) An automatic evaluation system as set forth in claim 7, wherein the time monitor portion includes a timer for monitoring the passage of a predetermined time defined in advance.

9. (Amended) An automatic evaluation system as set forth in claim 7, wherein the time monitor portion includes an arithmetic logic unit for carrying out a logical sum operation of individual simulation results at predetermined time intervals and a determination according to the finally prepared data.

10. (Amended) An automatic evaluation system as set forth in claim 7, wherein the time monitor portion includes a decoder which receives a display rewriting completion event from the program operating on the target system and decodes the display rewriting completion event.

11. (Amended) An automatic evaluation system as set forth in claim 6 wherein the simulation is stopped when the reference to the output screen is made.

**REMARKS**

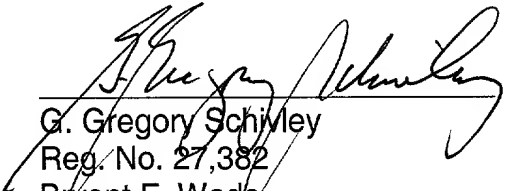
The purpose of this preliminary amendment is to clarify the translation and remove multiple dependent claims. No new matter has been added.

Favorable consideration of this application is respectfully requested.

Respectfully submitted,

Dated: Oct 9, 2001

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**ATTACHMENT FOR SPECIFICATION AMENDMENTS**

Attorney Docket No. 9319S-000230

(underlines indicate insertions and brackets indicate deletions)

The following is a marked up version of each replacement paragraph and/or section of the specification in which underlines indicates insertions and brackets indicate deletions.

**[Page 1, line 7]** The present invention relates to an automatic evaluation method, an automatic evaluation system, and a storage medium storing an automatic evaluation program, which can automatically evaluate a program operating on a target system from an input event such as a key input and a reference output resulting from this input event on, for example, an output screen.

**[Page 4, line 9]** In order to solve the above problems, an automatic evaluation method [as set forth in claim 1] is an automatic evaluation method for automatically evaluating a program operating on a target system by referring to an output screen as a result of a simulation to an arbitrary input event, in which the simulation is performed, a timing when data renewal of the output screen on which its result is reflected becomes definite is reported, reference to the output screen is made in accordance with the timing, and a result of the reference is compared with reference data prepared in advance, so that an automatic evaluation is carried out.

**[Page 4, line 23]** Further, according to [an] another automatic evaluation method [as set forth in claim 2, in the method as set forth in claim 1], the timing when the data renewal of the output screen becomes definite is determined by monitoring the passage of a predetermined time defined in advance. Moreover, according to [an] yet another automatic evaluation method [as set forth in claim 3, in the method as set forth

in claim 1], the timing when the data renewal of the output screen becomes definite is determined by data which is finally prepared by carrying out a logical sum operation of individual simulation results at predetermined time intervals. Moreover, according to [an] still yet another automatic evaluation method [as set forth in claim 4, in the method as set forth in claim 1], the timing when the data renewal of the output screen becomes definite is reported by a display rewriting completion event from the program operating on the target system.

**[Page 5, line 16]** Besides this, according to [an] another automatic evaluation method [as set forth in claim 5, in the method as set forth in any one of claims 1 to 4], the simulation is stopped when reference to the output screen is made.

**[Page 5, line 23]** In order to solve the above problems, [an] yet another automatic evaluation system [as set forth in claim 6] is an automatic evaluation system for automatically evaluating a program operating on a target system by referring to an output screen as a result of a simulation corresponding to an arbitrary input event, and comprises a simulation unit for performing the simulation of an operation of the program and monitoring a timing when data renewal of the output screen on which its result is reflected becomes definite, and an automatic evaluation unit for obtaining from the simulation unit the timing when the data renewal of the output screen becomes definite, referring to the output screen at the timing, and carrying out an automatic evaluation by comparing a result of the reference with reference data prepared in advance.

**[Page 6, line 14]** Further, according to [an] still yet another automatic evaluation system [as set forth in claim 7, in the system as set forth in claim 6], the simulation unit comprises a simulator for performing the simulation, and a timing monitor

portion for obtaining the timing when the data renewal of the output screen becomes definite by communicating with the simulator.

**[Page 6, line 25]** Besides this, according to [an] another automatic evaluation system [as set forth in claim 8, in the system as set forth in claim 7], the timing monitor portion includes a timer for monitoring passage of a predetermined time defined in advance. Besides this, according to [an] another automatic evaluation system [as set forth in claim 9, in the system as set forth in claim 7], the timing monitor portion includes an arithmetic logic unit for carrying out a logical sum operation of individual simulation results at predetermined time intervals and a determination according to the finally prepared data. Moreover, according to [an] yet another automatic evaluation system [as set forth in claim 10, in the system as set forth in claim 7], the timing monitor portion includes a decoder which receives a display rewriting completion event from the program operating on the target system and decodes the display rewriting completion event.

**[Page 7, line 18]** Besides, according to [an] still yet another automatic evaluation system [as set forth in claim 11, in the system as set forth in any one of claims 6 to 10], the simulation is stopped when the reference to the output screen is made.

**[Page 8, line 1]** In order to solve the above problems, a storage medium storing an automatic evaluation program [as set forth in claim 12] is a storage medium storing an automatic evaluation program for automatically evaluating a program operating on a target system by referring to an output screen as a result of a simulation to an arbitrary input event, in which the automatic evaluation program comprises a step of reading input events and reference data prepared in advance for the individual input

events, a step of successively transmitting the read input events to cause execution of the simulation, a step of obtaining a notification of a timing when data renewal of the output screen on which a result of the simulation is reflected becomes definite and referring to the output screen in accordance with the timing, and a step of carrying out an automatic evaluation by comparing a result of the reference with the reference data.

**[Page 24, line 2)** The entire disclosure of Japanese Patent Application No. 2000-178341 filed June 14, 2000 is incorporated by reference herein.

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**ATTACHMENT FOR CLAIM AMENDMENTS**

Attorney Docket No. 9319S-000230

(underlines indicate insertions and brackets indicate deletions)

1. (Amended) An automatic evaluation method for automatically evaluating a program operating on a target system by referring to an output screen as a result of a simulation to an arbitrary input event, the automatic evaluation method [characterized in that] comprising:

performing the simulation [is performed,] at a [timing] time when data renewal of the output screen on which [its] the simulation result is reflected becomes definite is reported, [reference] and referencing the output screen [is made] in accordance with the [timing] time, and

comparing a result of the reference [is compared] with reference data prepared in advance so that an automatic evaluation is carried out.

2. (Amended) An automatic evaluation method as set forth in claim 1 [characterized in that], wherein the [timing] time when the data renewal of the output screen becomes definite is determined by monitoring the passage of a predetermined time defined in advance.

3. (Amended) An automatic evaluation method as set forth in claim 1, [characterized in that] wherein the [timing] time when the data renewal of the output screen becomes definite is determined based on data which is finally prepared by carrying out a logical sum operation of individual simulation results at predetermined intervals of time.

4. (Amended) An automatic evaluation method as set forth in claim 1, [characterized in that] wherein the [timing] time when the data renewal of the output screen becomes definite is reported by a display rewriting completion event from the program operating on the target system.

5. (Amended) An automatic evaluation method as set forth in [any one of the claims 1 to 4, characterized in that] claim 1, wherein the simulation is stopped when reference to the output screen is made.

6. (Amended) An automatic evaluation system for automatically evaluating a program operating on a target system by referring to an output screen as a result of a simulation corresponding to an arbitrary input event, the automatic evaluation system comprising:

a simulation unit [for performing] adapted to perform the simulation of an operation of the program and [monitoring] monitor a [timing] time when data renewal of the output screen on which [its] the simulation result is reflected becomes definite; and

an automatic evaluation unit [for obtaining] adapted to obtain from the simulation unit the [timing] time when the data renewal of the output screen becomes definite, [referring] refer to the output screen at [the timing] that time, and [carrying] carry out an automatic evaluation by comparing a result of the reference with reference data prepared in advance.

7. (Amended) An automatic evaluation system as set forth in claim 6, [characterized in that] wherein the simulation unit comprises:

a simulator [for performing] adapted to perform the simulation; and

a [timing] time monitor portion [for obtaining] adapted to obtain the [timing] time when the data renewal of the output screen becomes definite by communicating with the simulator.

8. (Amended) An automatic evaluation system as set forth in claim 7, [characterized in that] wherein the [timing] time monitor portion includes a timer for monitoring the passage of a predetermined time defined in advance.

9. (Amended) An automatic evaluation system as set forth in claim 7, [characterized in that] wherein the [timing] time monitor portion includes an arithmetic logic unit for carrying out a logical sum operation of individual simulation results at predetermined time intervals and a determination according to the finally prepared data.

10. (Amended) An automatic evaluation system as set forth in claim 7, [characterized in that] wherein the [timing] time monitor portion includes a decoder which receives a display rewriting completion event from the program operating on the target system and decodes the display rewriting completion event.

11. (Amended) An automatic evaluation system as set forth in [any one of claims 6 to 10] claim 6, wherein the simulation is stopped when the reference to the output screen is made.

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**ATTACHMENT OF ABSTRACT AMENDMENTS**

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(underlines indicate insertions and brackets indicate deletions)

[A highly reliable automatic evaluation is realized by constructing a mechanism which causes a simulator to monitor a regular cycle in which a result of a simulation becomes definite and a screen is renewed, and notifies this to an automatic evaluation unit.]

An automatic evaluation system automatically evaluates a program operating on a target system by referring to an output screen as a result of a simulation to an arbitrary input event, in which a simulation unit 30 performs the simulation of an operation of the program and monitors a timing when data renewal of the output screen on which its result is reflected becomes definite, and an automatic evaluation unit 11 obtains the timing when the data renewal of the output screen becomes definite from the simulation unit 30, refers to the output screen at the timing, and carries out an automatic evaluation by comparing a result of the reference with reference data prepared in advance.

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